

ABSTRACT OF THE DISCLOSURE

A method of precluding diffusion of a metal into adjacent chalcogenide material upon exposure to a quanta of actinic energy capable of causing diffusion of the metal into the chalcogenide material includes forming an actinic energy blocking material layer over the metal to a thickness of no greater than 500 Angstroms and subsequently exposing the actinic energy blocking material layer to said quanta of actinic energy. In one implementation, an homogenous actinic energy blocking material layer is formed over the metal and subsequently exposed to said quanta of actinic energy. A method of forming a non-volatile resistance variable device includes providing conductive electrode material over chalcogenide material having metal ions diffused therein. An actinic energy blocking material layer is formed on the conductive electrode material, the actinic energy blocking material layer being effective to shield actinic energy from reaching an interface of the conductive electrode material and the actinic energy blocking material to substantially preclude diffusion of the conductive electrode material into the chalcogenide material upon exposure to said actinic energy. A dielectric layer is formed on the actinic energy blocking material layer. The conductive electrode material is formed into a first electrode. A second electrode is provided proximate the chalcogenide material having the metal diffused therein. Non-volatile resistance variable devices manufacture by these and other methods are contemplated.